

Yi 2  
7399  
F 9

Let come now to treat of the cephalic fluxes of  
fever. Before I enter upon this subject I  
shall deliver some remarks upon the brain  
and its appendages which are partly of a phy-  
siological and partly of a pathological & practical  
nature.

I taught you in our physiology that  
~~the system~~ <sup>the</sup> in early part of our course ~~to~~ <sup>for</sup>  
treating upon the circulation of the blood,  
I said <sup>maker</sup> that the ~~motion~~ of our bodies had guards  
against ~~the~~ inordinate or tumultuous  
motions <sup>of the blood</sup> by means of the spleen when  
the blood vessels were unusually excited through-  
out the whole system - by the Thyroid  
gland when it was <sup>determined in</sup> ~~was~~ <sup>are</sup> ~~was~~ <sup>are</sup>  
sent quantity to the lungs, by the



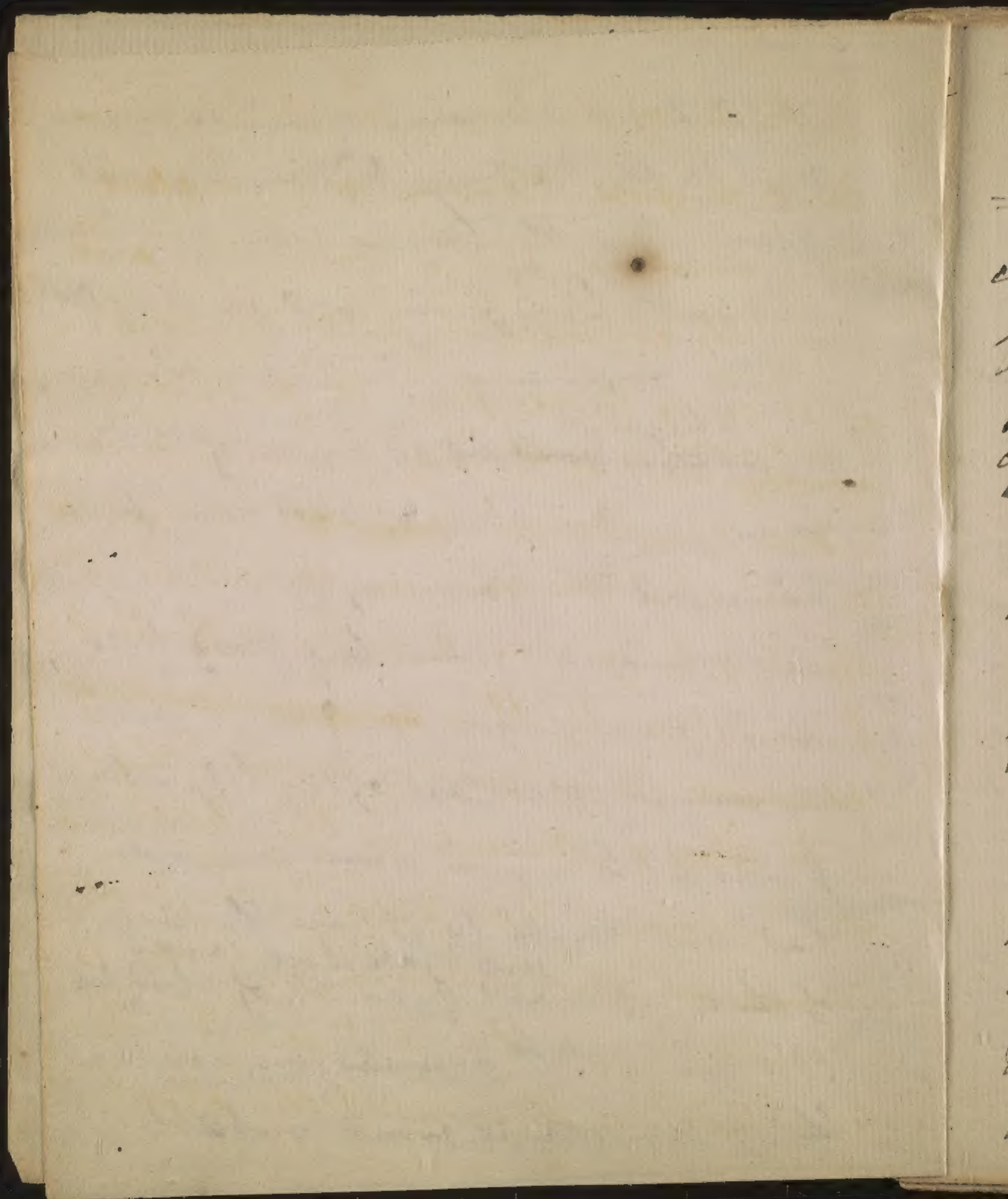
the extirpation of the  
are experiments

✓ I formerly supposed from a fact to make  
upon the Thyroid glands by Mr Cooper pro-  
-ducing fatality in Dogs, that this gland ser-  
-ved to arrest and detain the blood when too  
forcibly determined to the brain. But I ~~not~~  
~~was not~~ ~~in this~~ ~~opinion~~ ~~from~~ ~~any~~ ~~being~~ ~~reason~~  
to be from the small <sup>capacities</sup> size of that gland,  
and from ~~and~~ any not admitting the  
inferences <sup>from</sup> of Mr Cooper's ~~fact~~ experiments  
I have rejected that supposition. Dr Keene  
in his essay on Cretinism published in the  
5<sup>th</sup> vol: of the Edin: medical and Surgical journal  
tells us that in those countries where Cretins  
are most numerous, many people of sound &  
vigorous minds have Bronchocele, and that the  
combination of Bronchocele and <sup>Idiotism</sup> ~~Idiotism~~  
is altogether accidental. The Thyroid gland,  
believe me not nervous determination to the  
brain only, but never arterial. Its use, I believe  
is chiefly as a waste gate to the Larynx in  
singing and speech.



Glandula renalis when it was too copiously  
sent to the kidneys, & <sup>by</sup> the Thyroid  
Gland when the larynx was over disten-  
-ted with blood from loud, or long spea-  
-king, or singing. <sup>V</sup> In contemplating  
the ~~excessive~~ <sup>frequent</sup> exposure of the brain  
to an undue flux of blood from fever,  
from all the causes of apoplexy, pal-  
-sies & convulsions, from long blood spea-  
-king, from anger, and even from  
the recumbent posture of the body in sleep,  
I was led to inquire what provision  
had been made to obviate the ill effects  
of ~~the~~ a redundant quantity of blood <sup>sent by all those causes</sup> to  
the brain. I suggested formerly that  
~~the~~ I thought it most probable the







Ventricles of the brain served this impor-  
-tant purpose. From a more close  
examination of this opinion, and  
from its connection with the means  
of obviating disease from the same causes in  
a continuous  
~~another~~ part of the body I have no doubt  
of its correctness. ~~Therefore~~ The lungs &  
the liver and the pancreas obviate the ill  
effects of being over distended with blood  
for a while, by their ~~being so expanded~~  
~~distended~~ giving way as it were, that  
is by ~~their~~ increasing in their bulk, but  
this can never take place in the brain.  
~~Therefore~~ The Cranium prevents its  
dilatation; and this it is said to such a  
degree as even to prevent the elevation

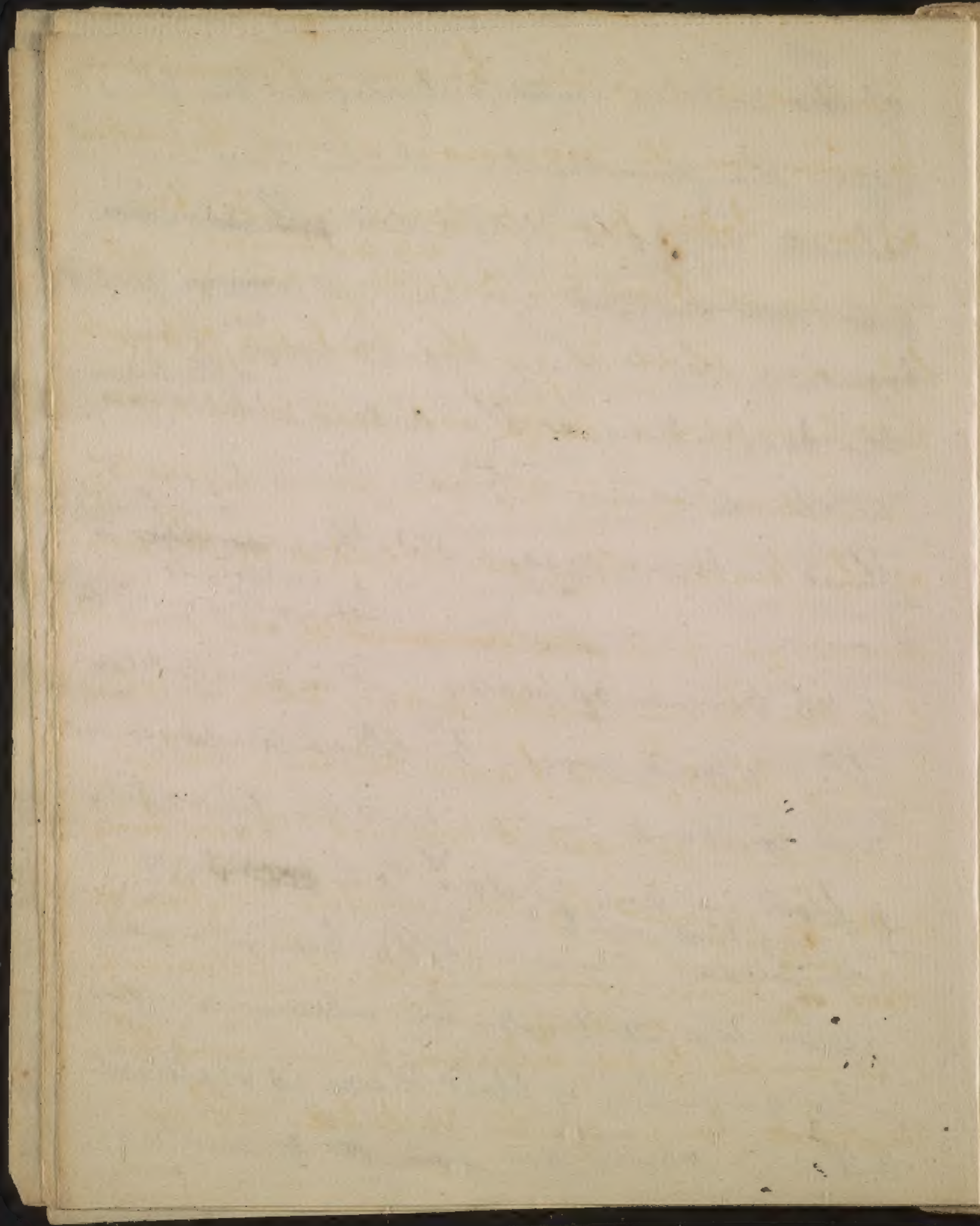


✓ Indeed there can be no doubt of  
this being the case, Baghiu tells us  
he found ~~big~~ of coagulated blood in  
the Ventricles of the famous Anatomist  
Malpighi who died of an apoplexy.  
Allowing the bloodvessels to be in part  
emptied of their blood to admit of this  
large accumulation of it in the Ventricle  
-les, still it shows that they are cap-  
-ble by compression of affording room  
for more than five or six times of  
redundant blood.



its  
of the arteries inter pulsation. In this  
case, the ~~Ventricles~~ <sup>which</sup> these cavities  
which we call Ventricles ~~which are~~ <sup>give way</sup>  
~~are~~ <sup>or become</sup> ~~are~~ <sup>pressed</sup>  
together, and thus afford more <sup>room</sup> for  
the distention of the Arteries <sup>of the brain</sup> ~~Arteries~~  
with redundant blood. In a child of  
three or four years old, they <sup>are found</sup> ~~containing~~ to  
contain in a hydrocephalus <sup>internus</sup> from 3 to  
5 or 6 ounces of water. It is probable  
they afford room by their compression  
and contact for a greater quantity  
of blood in an adult. It is ~~not~~ <sup>impossible</sup>  
the <sup>longitudinal</sup> lateral sinuses of the brain may  
assist the Ventricles by retaining a greater  
quantity of blood than is natural  
to them, when an <sup>unusual</sup> ~~unusual~~ quantity of

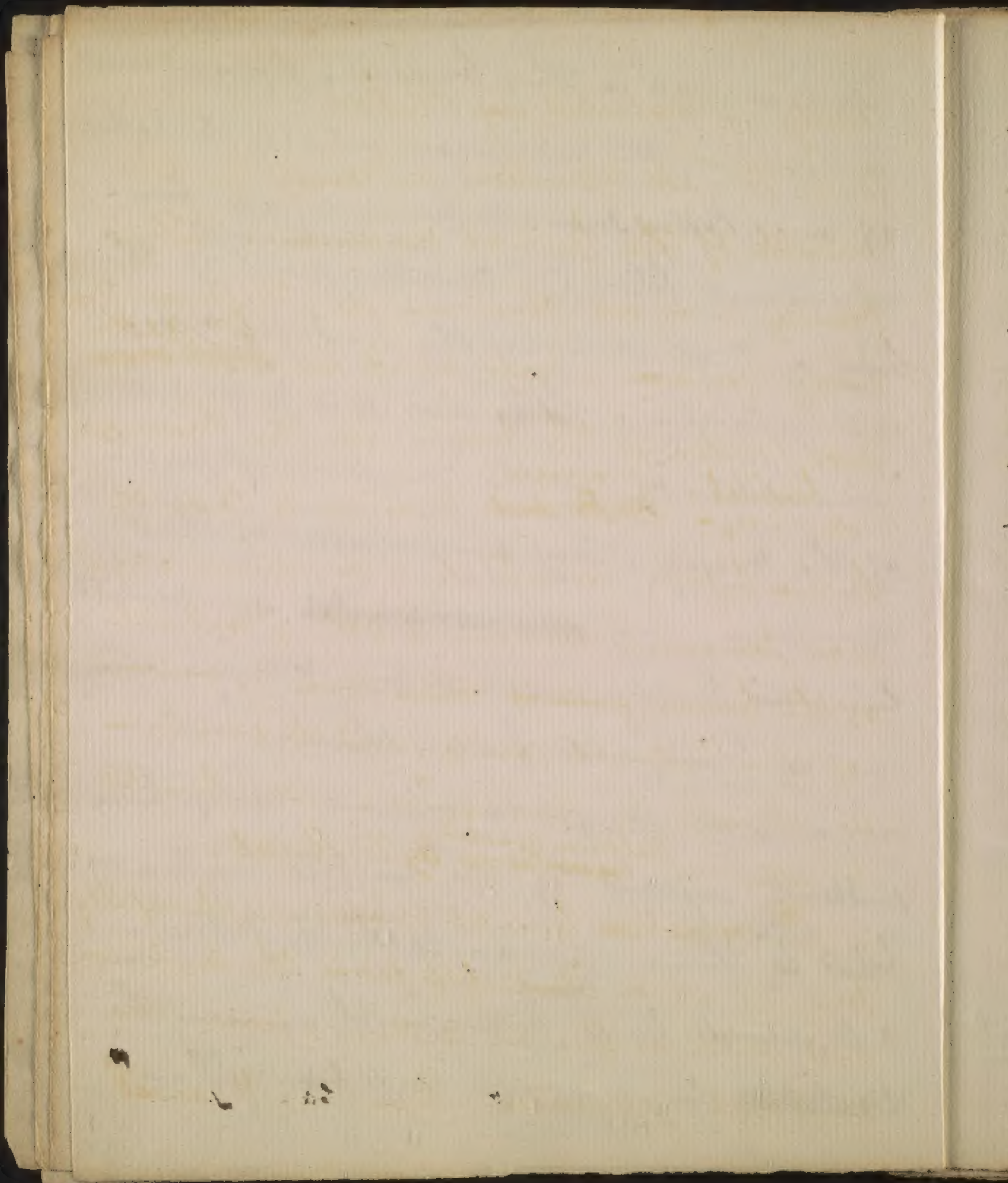






blood is sent to the brain. I would next  
to mention the provision which the maker  
of our bodies seems to have made for  
redundant blood in another <sup>and continuous</sup> part of the  
body, and that is in the medulla oblongata  
and spinalis. ~~They~~ <sup>These</sup> are said to be a con-  
-tinuation of all the component parts  
of the brain. They are composed of the same  
coverings, and ~~are terminated~~ are provided  
like the brain with arteries & veins which  
carry blood <sup>to</sup> and from them. The  
means employed to prevent their being  
suddenly injured by an undue influx of  
blood <sup>into</sup> ~~to~~ them appear to be the following.  
1 A small space <sup>or cavity</sup> between them and the  
~~vertebrae~~ bones of the vertebrae. This







cavity is described by Portal

2 a small aperture or cavity in the middle of the spinal marrow. This cavity is most obvious in children. You may see ~~in~~ a draft of it in ~~Dr Galt's~~ <sup>Dr Galt's</sup> ~~anatomy~~

~~two~~ plates of the brain in the Pennings-  
hospital. <sup>Morgagni</sup> ~~Desportes~~ describes a case of  
-varian-

Spina bifida in which a communication was discovered between it & the 3<sup>rd</sup> ventricle of the brain ~~and of this case~~ by means of this internal cavity, and its existence is admitted by Piccolomini, Bouchier & Malpighi <sup>Authors quoted</sup> ~~mentioned~~ by Dr Portal.

3 The ~~vertebral~~ spinal marrow is plentifully supplied with blood vessels from the anterior and posterior spinal arteries & from the vertebral, intercostal, lumbar & sacral



Dr Portal mentions two striking facts in support of the opinion I have advanced. 1 In a child affected with Spina bifida he distinctly saw the tumor enlarged in every respiration, and shrank in every expiration. This child died. He found after death a cavity large enough to admit a quill which communicated with the 3<sup>rd</sup> ventricle of the brain. 2 He opened & inspected the vertebrae of several dogs & cats & distinctly saw the Medulla Spinalis enlarged & shrank with each inspiration, and expiration. These motions extended only to 3<sup>rd</sup> and 4<sup>th</sup> ~~cervical~~ cervical vertebrae in both cases. Vol: IV. p: 66.



Arteries. The Veins which return the  
blood which is carried by them are  
4 in number and larger than the  
Arteries - ~~one of them is anterior, another~~  
~~one of them is posterior,~~  
and two are lateral. They are so large  
Porter says that <sup>they</sup> might be called a  
Sinus. These Veins probably serve by  
their distension <sup>to</sup> aid the two Cavities  
~~to~~ <sup>I have</sup> mentioned in relieving the  
medulla oblongata & spinalis from the  
ill effects of redundant blood when  
thrown upon them. ✓

The diseases of the ~~medulla~~ spinal  
marrow, or the brain in the Vertebra  
~~with the~~ former the theory I have  
delivered of the uses of the Cavities &



V and 2<sup>ly</sup>: the water in the Spinal Bifida  
penetrates the coats and even the  
coats of the spinal marrow, whereas  
the water in the

V in which case it perfectly agrees  
in every respect with the Hydrocephalus  
-lus <sup>is</sup> Externus. ~~From its position~~  
~~it ought to be called~~

N found two external openings  
instead of one. It <sup>was</sup> ~~is~~ more  
extended form of the same disease.



Spina Bifida  
sinus ~~in it~~ which have been mentioned.

1 The Spina Bifida is nothing but an external drop of the Spinal Marrow in ~~every~~ every respect similar to the external drop of the brain, except <sup>in the following particulars</sup> the external drop of the brain is induced by an opening of the surface of the brain - the Spina Bifida, by the absence ~~of a spinal process~~ of a spinal process of the Vertebra. <sup>but it</sup> sometimes it appears we are told with a gaping ~~of~~ or opening between two of the Vertebrae, - There is a case upon the discharge of water by Morgagni in which a puncture of ~~the brain~~ the Spina Bifida produced the collapse of a brain distended with Hydrocephalus ~~interius~~ <sup>exterius</sup>. In this case the water 2 a severe pain in the back generally



an  
17  
a  
be  
be  
bl  
w  
2  
B  
- D  
3  
do  
t  
be  
do  
w



accompanying  
fevers of great morbid action as certainly  
as a pain in the head. may not this  
be occasioned by the Cavities & sinuses I  
have described, being so overcharged with  
blood, as no longer to prevent its pressure  
upon and distending the dura ~~mater~~  
the other coverings  
of the spinal marrow, and  
thus to excite the pain I have mention-  
ed.

3 may not the palsy of the lower limbs  
~~be occasioned by the~~ and  
~~the depression of~~ the bowels  
be occasioned often by the depression of  
the nerves which issue from the spine  
by the spinal marrow being pressed  
by too much blood, than by any other

cause?  
4 may not the weakness in the lower  
trunk of the body,



li  
in  
It  
1  
O  
2  
5  
1  
.  
W  
.  
.  
.  
.  
.











6  
the Dr adds "induration, softness, inflammation  
suppuration and Ulceration have been found  
in the medulla Spinalis. And there is no  
doubt but that like the brain is capable  
of being affected by Concupision". He then  
concludes by saying "in a word, the diseases  
of the medulla Spinalis have a great  
affinity with the diseases of the brain,  
and are more common than is generally  
supposed". ~~It is added to the~~

~~The~~ The practical inference from all the  
facts and opinions that have been ~~delivered~~<sup>delivered</sup>  
are, the necessity and safety of <sup>we</sup> draining  
the brain from redundant blood. Were <sup>we</sup> to live  
agreeably to reason, the ventricles and ~~ventricles~~  
sinuses of the brain would be sufficient  
to ~~retain~~ prevent injury to it in common



3 In treating upon pulmonary consumption I advised the Application of Blisters between the shoulders along the Cervical & ~~lower~~ Dorsal Vertebrae. I have repeatedly seen them do more service when applied there, than to the sides or breast. May not the reason why of this be - the blister opening congestion in the Spinal Vertebrae which supply a portion of nerves which unite with the par Vagus & great Sympathetic nerves which rays are distributed to the Thoracic & Abdominal viscera?

4 May not the efficacy of a Burgundy pitch plaster to ~~the~~ <sup>the</sup> external parts of the Cervical and dorsal Vertebrae, and of other stimulating applications to the same parts, be owing to this in the Hooping



habits  
cons, but the pursuits, pleasures & <sup>prices</sup> of  
civilized life, render them too scanty for  
that purpose. The quantity of blood sent  
to the brain requires the aid of the lancet to  
assist the Ventricles and lateral sinuses in  
the uses I have ascribed to him.  
✓ From the <sup>use of the</sup> waste cavities which I have  
~~described~~ described in the Spinal Marrow, it  
is alike obvious that many diseases  
in the nervous & muscular parts of the  
body which are supplied with nerves  
from the Spinal Marrow, are, from the  
inability of those cavities to afford shelter  
room for all the blood that is sent to  
them, induced by <sup>an excess of</sup> ~~too much~~ ~~perhaps~~ blood  
in the Spinal Marrow, and that they  
require, especially in their first stage,  
remedies, the reverse of what are too often



7  
~~Large - be owing to ~~various~~ their~~  
~~inducing such actions in the spinal~~  
~~marrow, do?~~

✓ This, - from the sameness of its  
cause ~~very~~ with Hydropschelus  
internus -



prescribed for them; I mean depleting re-  
-medies. I shall illustrate ~~what I mean~~  
~~by a reference to a single disease~~ what I  
mean by a reference of a single disease.

I have said the Hydrocephalus internus is  
~~caused by~~ <sup>so much</sup> ~~the blood~~  
is induced by ~~the blood~~  
being ~~forced~~ <sup>forced</sup> ~~into~~ <sup>into</sup> ~~the~~ <sup>the</sup> ~~ventricle~~  
brain as to produce a passage of its serous  
parts into the ventricles, or by the force  
of the blood forcing open the or widening the  
sutures ~~and~~ ~~the~~ ~~ventricle~~ thus pro-

ducing a Hydrocephalus ~~inter~~ <sup>exter</sup> ~~internus~~.  
I have said further that a disease similar to the  
~~latter~~ <sup>latter</sup> ~~is produced~~  
in the spinal marrow by the same causes.  
but <sup>tells us that</sup>

Dr. Portal ~~tells us that~~ <sup>tells us that</sup> water is found in the  
~~its~~ <sup>its</sup> ~~cavities~~ <sup>cavities</sup> ~~the~~ <sup>the</sup> ~~may be called~~  
~~Hydrocephalus~~ <sup>Hydrocephalus</sup> ~~internus~~ <sup>internus</sup> ~~the~~ <sup>the</sup> ~~spina~~

which <sup>which</sup> is produced by water forcing its  
Bifida



✓ Which are the effects of  
fevers. I have called them apathetic  
States of fever. —



way outwards by the destruction of  
a spinal process, or by insinuating  
itself between two of the vertebrae ~~which~~  
~~which~~ might be called a Hydrovertebra.  
- is extremely ~~the most common~~ ~~between~~ &

I shall apply the facts & principles  
I have thus delivered to several other  
diseases in the sequel of our lectures.

However <sup>wisely and kindly</sup> ~~great the precautions which~~  
the peculiarities in the brain I have ~~noted~~  
~~noted~~ appear to be intended to prevent its  
diseases, from many circumstances they  
are not always sufficient in common  
with the Spleen, Thymus & Thyroid glands  
& Glandula renalis for that purpose. The  
~~various~~ diseases of the brain from an  
undue determination of blood to it are  
numerous. At present, I shall ~~take~~  
confine myself only to these diseases. ✓



